



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,304	11/25/2003	Hirotake Nakamura	004553. 108004	7088
29540	7590	10/18/2005	EXAMINER	
PITNEY HARDIN LLP 7 TIMES SQUARE NEW YORK, NY 10036-7311			UHLENHAKE, JASON S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,304

Applicant(s)

NAKAMURA, HIROTAKE

Examiner

Jason Uhlenhake

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I (Claims 1-14) in the reply filed on September 27, 2005 is acknowledged.

Applicant's election of Group I (Claims 1-14) in the reply filed on September 27, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Mochizuki et al (U.S. Pat.6,059,405).

Mochizuki et al discloses:

- Regarding claim 1, ink-jet recording apparatus comprising an ink-et printing head (Figure 2: 4,5) which ejects, to a recording medium (Figure 1, Column 2 Lines 50-65), the ink through nozzles (Column 4 Lines 4 – 23, Column 6 Lines 10 – 38)

- First ink-introducing step of initially introducing a first ink into said ink-jet printing head when printing head is initially used, said first ink having a first degree of deaeration (Column 1, Lines 15 – 35)
- Second ink-introducing step of introducing a second ink into said ink-jet printing head after said first ink-introducing step, said second ink having a second degree of deaeration, which is lower than said first degree of deaeration (Column 4, Lines 47 – 56)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being obvious over Mochizuki et al (U.S. Pat. 6,059,405) in view of Shimizu et al (U.S. Pub. 2004/0134801).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Mochizuki et al discloses all of the claimed limitations except for the following:

- ***regarding claim 2***, a mounting portion on which an ink package accommodating the ink is removably mounted, mounting said ink package, an initial-use ink package accommodating said first ink on said mounting portion introducing said first ink into said ink-jet printing head; mounting said ink package, a replacement ink package, accommodating said second ink on said mounting portion, said replacement ink package replacing said ink package which has been mounted on said mounting portion immediately before said replacement ink package and introducing said second ink into said ink-jet printing head; wherein said initial-use ink package is in a state which is enclosed such that said first ink in said initial-use ink package maintains said first degree of deaeration which is higher than said second degree of deaeration of said second ink in said replacement ink package.

Shimizu et al discloses the following:

Art Unit: 2853

- **regarding claim 2**, a mounting portion on which an ink package accommodating the ink is removably mounted (Paragraph 0067), mounting said ink package, an initial-use ink package accommodating said first ink on said mounting portion introducing said first ink (Paragraph 0011); mounting said ink package, a replacement ink package, accommodating said second ink on said mounting portion, said replacement ink package replacing said ink package which has been mounted on said mounting portion immediately before said replacement ink package and introducing said second ink (Paragraph 0011); wherein said initial-use ink package is in a state which is enclosed such that said first ink in said initial-use ink package maintains said first degree of deaeration (Paragraphs 0009 – 0010) which is higher than said second degree of deaeration of said second ink in said replacement ink package. The concept of a mountable ink package as disclosed by Shumizu et al can be used to hold the first ink and the ink package disclosed can hold the second ink disclosed by the applicant, and be used as a replacement for the initial ink package.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a mounting portion which an ink package accommodates said first ink, or said second ink, and said initial-use ink package in a state which is enclosed such that said first ink maintains said first degree of deaeration higher than said second degree of deaeration of said second ink replacement package, as taught by Shimizu et al into the device of Mochizuki et al. The motivation for doing so would have been to provide an ink package assembly arranged to minimize deterioration of ink.

Claims 3-8 are rejected under 35 U.S.C. 103(a) as being obvious over Mochizuki et al (U.S. Pat. 6,059,405) in view of Shimizu et al (U.S. Pub. 2004/0134801).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Mochizuki et al discloses all of the claimed limitations except for the following:

- ***regarding claim 3***, initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure

- **regarding claim 4**, said first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper before mounting on said mounting portion .
- **regarding claim 5**, wherein said initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air
- **regarding claim 6**, wherein said first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper before mounting on said mounting portion
- **regarding claim 7**, wherein said inert gas is a helium gas
- **regarding claim 8**, wherein the ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls, and a rigid ink-bag casing which accommodates said ink bag.

Shimizu et al discloses the following:

- **regarding claim 3**, initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper (4) whose interior space is evacuated to a pressure lower than an atmospheric pressure (Paragraph 0016). For the purpose of preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper.
- **regarding claim 4**, said first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper (4) before

mounting on said mounting portion (Paragraph 0067). For the purpose of an ink-package assembly and a method of producing.

- **regarding claim 5**, wherein said initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper (4) whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air (Paragraph 0010). For the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

- **regarding claim 6**, wherein said first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper (4) before mounting on said mounting portion (Paragraph 0067). For the purpose of an ink-package assembly and a method of producing.

- **regarding claim 7**, wherein said inert gas is a helium gas (Paragraph 0013). For the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

- **regarding claim 8**, wherein the ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls (5), and a rigid ink-bag casing (12) which accommodates said ink bag (Paragraph 0021). For the purpose of preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing

wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure; first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper before mounting on said mounting portion; initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air; first-ink introducing step further comprises a step of taking said initial-use ink package out of said sealing wrapper before mounting on said mounting portion; inert gas is a helium gas; ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls, and a rigid ink-bag casing which accommodates said ink bag as taught by Shimizu et al into the device of Mochizuki et al. The motivation for doing so would have been to produce an ink-package assembly and method of producing the same, providing an ink-package assembly arranged to minimize deterioration of deaeration of ink, preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper.

Claims 9,10,11,12,13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al (U.S. Pat. 6,059,405) and Shimizu et al (U.S. Pub. 2004/0134801) as applied to claim 1- 8 above, and further in view of Saito et al (U.S. Pat. 4,970,533).

Mochizuki et al discloses the following:

- **regarding claim 9**, an ink-jet recording apparatus comprising an ink-jet printing head having nozzles through which ink is ejected to a recording medium (Mochizuki et al: Column 4 Lines 4 – 23, Column 6 Lines 10 – 20)

Mochizuki et al does not disclose the following:

- **regarding claim 9**, an initial-use ink package to accommodate a first ink having a first degree of deaeration and a replacement ink package to accommodate a second ink having a second degree of deaeration, said initial-use ink package and said replacement package selectively mounted on a mounted portion

An ink package which ink that is to be introduced into said ink-jet printing head is accommodated, and said ink package is removably mounted

- **regarding claim 10**, wherein said initial-use ink package is in a state which is enclosed such that said first ink in said initial-use ink package maintains said first degree of deaeration which is higher than said second degree of deaeration of said second ink in said replacement ink package
- **regarding claim 11**, initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure
- **regarding claim 12**, wherein said initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air

- **regarding claim 13**, wherein said inert gas is a helium gas
- **regarding claim 14**, wherein the ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls, and a rigid ink-bag casing which accommodates said ink bag

Shimizu et al discloses the following:

- **regarding claim 9**, an ink package which ink that is to be introduced into said ink-jet printing head is accommodated, and said ink package is removably mounted (Shimizu et al: Paragraph 0067). For the purpose of producing an ink-package assembly and method of producing the same.
- **regarding claim 10**, wherein said initial-use ink package is in a state which is enclosed such that said first ink in said initial-use ink package maintains said first degree of deaeration (Shimizu et al: Paragraphs 0009 – 0010) which is higher than said second degree of deaeration of said second ink in said replacement ink package. For the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.
- **regarding claim 11**, initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper (4) whose interior space is evacuated to a pressure lower than an atmospheric pressure (Shimizu et al: Paragraph 0016). For the purpose of preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper.
- **regarding claim 12**, wherein said initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper (4) whose

interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air (Shimizu et al: Paragraph 0010). For the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

- **regarding claim 13**, wherein said inert gas is a helium gas (Shimizu et al: Paragraph 0013). For the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

- **regarding claim 14**, wherein the ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls (5), and a rigid ink-bag casing (12) which accommodates said ink bag (Shimizu et al: Paragraph 0021). For the purpose of preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper.

Saito et al discloses the following:

- **regarding claim 9**, an initial-use ink package to accommodate a first ink having a first degree of deaeration and a replacement ink package to accommodate a second ink having a second degree of deaeration, said initial-use ink package and said replacement package selectively mounted on a mounted portion (Column 2 Lines 23-38, 49-59). For the purpose of while the same single recording head is continuously used, by exchanging ink cartridges whenever the ink in each ink cartridge is used up.

- At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of an initial-use ink

package to accommodate a first ink having a first degree of deaeration and a replacement ink package to accommodate a second ink having a second degree of deaeration, said initial-use ink package and said replacement package selectively mounted on a mounted portion; initial-use ink package is in a state which is enclosed such that said first ink in said initial-use ink package maintains said first degree of deaeration which is higher than said second degree of deaeration of said second ink in said replacement ink package; initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure; initial-use ink package is in a state in which said initial-use ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air; said inert gas is a helium gas; ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls, and a rigid ink-bag casing which accommodates said ink bag as taught by Shimizu et al and Saito et al into the device of Mochizuki et al. The motivation for doing so would have been to produce an ink-package assembly and method of producing the same, providing an ink-package assembly arranged to minimize deterioration of deaeration of ink, preventing deformation or breakage of an ink package due to evacuation of interior space of a sealing wrapper, while the same single recording head is continuously used, by exchanging ink cartridges whenever the ink in each ink cartridge is used up.

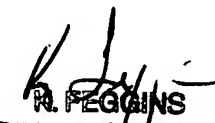
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU
October 4, 2005

 10/05
R. PEGGINS
PRIMARY EXAMINER